DREGS 2018 Fall Field Trip
by Steve Zahony - DREGS Field Trip Leader

Environment of the Telluride Mines at Gold Hill, Boulder County, CO.

The October 13, 2018 day-trip's focus will be on the geologic setting of the telluride veins of Gold Hill and their historic mining infrastructure. A hike of about _ of a mile will be involved along a gentle rise, a miner's wagon road, with a vertical gain of 300 feet, from 7,400 to 7,800 feet elevation.
The trip will be limited to 20 participants on a first-to-register basis. Eight individuals signed up for the trip at the September DREGS meeting. If you would like to participate in the trip, please contact Jim Paschis through e-mail at: jimpaschis@yahoo.com. There will be a $5 charge for each participant to cover some of the organization costs. We will collect that amount at the beginning of the field trip. Please bring a field lunch, adequate liquids, and necessary field gear for the day.
We will meet in Boulder at 8:30 AM at the 20th Judicial District Court parking lot located at 6th St. about four blocks west of the junction of Broadway (Highway 93) and Canyon Blvd. If you are driving from Denver or Golden, turn west onto Canyon Blvd. then turn south on 6th. The Court building is immediately to your right and the vast parking lot is immediately on your left. The CU Buffalos play at USC that day, so traffic should be mild.

From the Judicial Court parking lot we will head north on 6th St. and, with few kinks in the road, turn left or west onto Mapleton Ave., which turns into Sunshine Canyon Drive. We will follow this road to Gold Hill.

The first stop will be an overview of the Precambrian host rocks now beautifully exposed along the eastern slope of Bighorn Mountain as a result of the 2011 forest fire. The second stop will be an overview of the high peaks of the Front Range near the Cash mine mill and a possible stop to see the mill. We will proceed through the town of Gold Hill and head south and then northeast along Gold Run, where the first placer mining in Boulder County took place, to the small community of Summerville.

At Summerville we will turn southwest along an improved mountain road leading to Hoosier Hill. The third stop will be at a prominent outcrop of the Hoosier reef, a north-northwest trending Laramide feature that had a strong effect on the development of the younger northeast-trending gold and silver telluride and pyritic gold veins.

We will then drive back to just above Summerville, park the vehicles and walk about five hundred feet, virtually along the contour, to the Victoria Mine where we will observe the devastating effects of the 2013 flooding. From the Victoria mine we will return to our vehicles and drive back towards Gold Hill for the distance of one switchback. We'll park the vehicles there and hike up along an old time mine road with exemplary rockwork to the Blackhawk mine portal. This will be our lunch spot.

After lunch we will examine the Blackhawk vein, subsidiary structures, and the surrounding wall-rock alteration in clear surface exposures. The 2013 flood washed a large portion of the Blackhawk mine dump into Blackhawk Gulch where many vein samples can now be found.

Mark Steen, an expert in the history and geology of the district and proprietor of the Cash mine and most of the land we will have traversed during the day, may be able to join us and give enlightenment about the old and recent history of mining at Gold Hill. Jim Paschis, once mine geologist at the Cash mine, will also be on the trip.

Recommended reading materials:

Geologic Map of the Gold Hill Quadrangle, Boulder County, Colorado by Dolores J. Gable (1980) 1:24,000 USGS GQ-1525

Preliminary report on the Gold Hill Mining District, Boulder County, Colo. by E.N. Goddard (1940), Colorado Scientific Society Proceedings, Vol. 14, No.4

Gold Hill Quadrangle 7.5 Minute USGS Topographic Quadrangle

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Wyoming Spring Field Trip Report - June 9, 2018

DREGS' spring field trip focused on two geologic environments: the Copper King porphyry copper deposit west of Cheyenne and the iron ore deposits of the Hartville Uplift. Fifteen participants made the two-hour drive north from Denver to Cheyenne where they were met by David Mathewson, head of exploration for U.S. Gold Corp. and his project manager Ivan Johnston They led the caravan to the Copper King property located about 20 miles west of Cheyenne. Each participant received an illustrated multi-page handout about the geology and history of the property, compliments of U.S. Gold. The weather cooperated with mild temperatures, a sunny sky, and, unusual for Wyoming, almost no wind. Due to significant precipitation in southern Wyoming during winter and spring, the surrounding grass-covered hilly country was in peak green blossom.

Copper King has been explored and drilled by perhaps ten companies over half a century and a disseminated to stockwork copper-gold deposit, that crops out at the surface, has been outlined by over 125 drill holes. Current resources stand at 60 million tons of 0.53g/t Au and 0.19% Cu. The deposit is hosted by Proterozoic gneiss and schist and a variety of granitic intrusive porphyries situated near the margin of a mass of Sherman granite (1.43 b.y.). The predominant ore mineral is chalcopyrite with smaller amounts of pyrite and pyrrhotite. There is no pyrite halo surrounding the copper-gold resource, so the deposit is mining-clean. This deposit would have been mined long ago if it was situated in Nevada. Due to the effects of fracture-controlled oxidation, chalcopyrite has been locally converted to copper oxides and native copper, but because of the small amount of pyrite in and surrounding the deposit, secondary enrichment of copper is insignificant.

The excursion group enjoyed a pleasant lunch on the property site. We are most grateful to Dave Mathewson and U.S. Gold for enthusiastically allowing DREGS to visit this unusual Proterozoic porphyry property. We wish Dave success with the ongoing drilling and exploration program there.

The group returned to Cheyenne and continued north to Hartville, arriving at the old CF&I Sunrise mine site in mid-afternoon. The owner of the two abandoned iron mine pits and glory hole, John Voight., welcomed the group and had a long list of options to visit for the remainder of the day. This time of the year of maximum daylight hours allowed for a long afternoon in the field. As a first step, John Voight had arranged for an examination of the surprising Clovis points discovery location at the mine site. Excavations are being spearheaded by two local expert archeologists, George Frison and George Zeimens, who gave us exciting insights into this recent discovery. There are no age dates for this site as of yet but over 70 Clovis points have been found to date, making this the preeminent Clovis site of North America. Powdery hematite may have been used by the ancient denizens for ceremonial purposes and/or in some way in conjunction with Clovis point manufacturing. At the time of our visit, a chert repository was being excavated, a spot that appears to have been a spear point "factory". Perhaps blood-colored hematite stains on their bodies elicited TLC from their squaws.

John Voight had arranged for two earth scientist colleagues from Casper, WY to join and familiarize our group about the local geology. We are honored to have enjoyed informal presentations and general scientific enlightenment from Al Fraser and Dave Bentzin who then led us to the various outcrops and overviews of mine workings throughout the vast property. The hematite ore is a Proterozoic modification of an Archean deposit that may have been magnetite or even pyrite originally. Archean rocks have been greatly modified by several Proterozoic orogenic events. Laramide tectonic forces have also had their complicating effects, but significant uplifting allowed for the removal of Paleozoic and younger cover and aided in exposing these unique Archean basement rocks that form the core of the Hartville uplift.

Over a period of eighty years, from about 1900 to 1980, from three different proximal mine sites, Colorado Fuel and Iron Co. shipped over 40 million tons of iron ore from Sunrise to their Pueblo, CO smelter.

John Voight was a gracious host and we sincerely thank him for a wonderful experience there. John has an ongoing mining operation producing high-grade powdery hematite ore used as a cement additive. The excursion ended with a hearty restaurant meal at Guernsey, WY followed by the long drive back to Denver.





Photos of Copper King courtesy of Dr. Zhaoshan Chang.






Photos of Sunrise courtesy of Steve Zahony and Dr. Zhaoshan Chang.